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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,074	03/01/2002	Cynthia D. Walton	10125	1970
28006	7590	10/14/2004		
HERCULES INCORPORATED HERCULES PLAZA 1313 NORTH MARKET STREET WILMINGTON, DE 19894-0001			EXAMINER SELLERS, ROBERT E	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/087,074	Applicant(s) WALTON ET AL.	
	Examiner Robert Sellers	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6,10,12-14 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,10,12-14 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The examination of the application has been transferred due to the retirement of Examiner David Aylward. The following is responsive to the amendment filed September 27, 2004.

2. The following minor problems have been discovered. The proper Markush language is "selected from the **group** consisting of" as opposed to the phrase "selected from the class consisting of" in claim 1, line 4 [emphasis added]. The term "diethylenetriamine" is misspelled in claim 6, line 5. The character "ε" in claims 13 and 14, line 1 has no antecedent basis in claim 1 wherefrom it depends. Claim 1 refers to resin "C."

3. The 35 U.S.C. 103(a) rejection over Smigo Patent No. 5,281,307 in view of Cortigene Patent No. 3,600,272; Devlin Patent No. 3,057,833; Morrison's Organic Chemistry, Lee and Neville's Handbook of Epoxy Resins, Polish Patent No. 130,185 and Sadler Patent No. 3,931,027 is withdrawn. None of the references recite the claimed reaction product of a polyamidoamine and a polyepoxide limited to certain species of triglycidyl ethers. However, the following new grounds of rejection are hereby applied.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 12, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent No. 407,157 (European '157).

European '157 (page 8, Table 1) shows a reaction product of trimethoylpropane triglycidyl ether and a polyamideamine curing agent present in a solution of a plasticizer combination of phenol-modified aromatic polymer and nonylphenol (page 9, Notes *5 and *6) at a solids content of 47.9% by weight. The plasticizers dilute the trimethylolpropane triglycidyl ether (page 4, lines 23-24) and also solvates the polyamideamine once added. The claimed resin "consisting essentially of" the reaction product does not preclude the scaly filler, particulate filler and/or the fibrous material (page 2, lines 41-43) which do not affect the basic and novel characteristics of the claimed resin.

5. Claims 1, 10 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki et al. Patent No. 4,498,957; Japanese Patent Nos. 55-144050 (Japanese '050), 56-312 (Japanese '312), 53-39332 (Japanese '332) or 57-51772 (Japanese '772).

Sasaki et al. and the Japanese patents show reaction products of polyamidoamines and triglycidyl isocyanurate. Sasaki et al. (col. 9, lines 53-56) discloses the presence of the polyamide at a concentration of preferably from 2-15% by weight. Japanese '050 exemplifies a 20% solids solution of the polyamide. The other Japanese patents are directed to solid blends. More favorable consideration would be given with respect to this rejection if the limitations of claim 12 are incorporated into independent claim 1 requiring the polyamidoamine A to be in solution in an amount of from about 30% to about 70% by weight of solids content.

6. Claims 1, 12, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Nos. 60-2963 (Japanese '963) or 46-27792 (Japanese '792).

Japanese '963 or '792 set forth reaction products of glycerol triglycidyl ether and polyamidoamines wherein the polyamidoamine is in solution in a liquid bisphenol A epoxy resin (Japanese '963) or a 50% methanol solution (Japanese '792).

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by European Patent No. 488,949 (European '949).

European '949 espouses a reaction product of most preferably trimethylolpropane triglycidyl ether (page 3, lines 56-57) and a hardener blend of a polyamide of a dimer fatty acid, a (cyclo)aliphatic polyamine and an aromatic amine. The claimed resin "consisting essentially of" the reaction product embraces the additional hardeners of European '949 since the specification on page 10, lines 1-2 permit the use of blends of polyamidoamines and polyamines.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over European '157 and Japanese '963, '332 and '772 in view of Polish Patent No. 130,185 and the Nippon Setchaku Kyokaishi article by Fukuda et al.

8. European '157 and Japanese '963, '332 and '772 are described hereinabove and are open to polyamidoamine crosslinking agents in general. The particular species of polyamidoamine of claim 6 are not recited.

9. The Polish patent teaches the suitability of adipic acid-diethylenetriamine copolymers (page 2, second IT, Chemical abstracts registry no. 25085-20-5P) as hardeners for epoxy resins. Fukuda et al. reveals the latent curing effect of adipic acid-diethylenetriamine copolymer on an epoxy resin.
10. It would have been obvious to use the adipic acid-diethylenetriamine copolymer of the Polish patent and Fukuda et al. as the polyamidoamine crosslinking agent of European '157 and Japanese '963, '332 and '772 in order to improve adhesive properties such as heat resistance (Fukuda et al., AB, lines 9-10).
11. The multiple rejections advanced hereinabove confirm the conventional expedient in the art of crosslinking triglycidyl epoxy resins such as triglycidyl isocyanurate with polyamidoamines. Based on the specification, the invention should be directed to a process for preparing cellulosic products wherein the reaction product is used as a wet strength agent or creping aid (page 19, lines 22-24). However, claims defining such a process would be subject to restriction if introduced in the instant application.

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Robert Sellers
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